

Patent Claims

1. Insulation arrangement for the inner insulation of an air vehicle, consisting of an insulation packet (1), which is encased by a film (5) and arranged within an interspace, which is enclosed by an inner trim component (12) and an outer skin (6), characterized in that the insulation packet (1), which is completely surrounded by the film (5), does not completely line the interspace, and the film (5) is realized with a film material that is permeable by gases, with which a different diffusion resistance behavior is achieved dependent on the diffusion direction of the total arrangement.
2. Insulation arrangement according to claim 1, characterized in that such a diffusion behavior is allocated to the film material of the film (5), whereby it provides a high diffusion resistance coefficient from the film outer to the film inner wall surface and in the opposite diffusion direction (from the film inner to the film outer wall surface) it provides a low diffusion resistance coefficient.
3. Insulation arrangement according to claim 1, characterized in that the film (5) is made up of at least two different type films (2, 3), which are fixedly joined with one another on the film edges, whereby the individual film (2, 3) lies section-wise on the insulation packet (1).

1 4. Insulation arrangement according to claim 3, characterized
2 in that a first film (2) is realized with a film material,
3 which provides a low diffusion resistance coefficient in
4 the diffusion direction of the total arrangement on the
5 side of the insulation packet (1) facing toward the outer
6 skin (6).

1 5. Insulation arrangement according to claim ~~3~~, characterized
2 in that a second film (3) is realized with a film material,
3 which provides a high diffusion resistance coefficient in
4 the diffusion direction of the total arrangement on the
5 side of the insulation packet (1) facing toward the inner
6 trim component (12).

1 6. Insulation arrangement according to the claims ~~1 to 3~~,
2 characterized in that the film (5) or (2) lies on a
3 stringer (8), which divides the interspace into an inner
4 region (7) and an air gap region (10), whereby an air gap
5 (s) is provided between the stringer (8) and the outer skin
6 (6).

1 7. Insulation arrangement according to claim ~~6~~, characterized
2 in that plural spacer members, with which the stringer (8)
3 is supported relative to the outer skin (6), are arranged
4 within the air gap (s).

1 8. Insulation arrangement according to the claims ~~2 and 3~~,
2 characterized in that the inner trim component ~~(12)~~ is
3 provided with plural slits and/or openings, which are pro-

4 vided for the penetration of a relatively warm air (9) that
5 is located outside of the inner space (7) and that is
6 loaded with a high moisture, to the film outer surface of
7 the film (5) or (3), which faces toward the inner trim
8 component (12).

1 9. Insulation arrangement according to the claims 3 to 6,
2 characterized in that the film outer surface of the first
3 film (2) is arranged predominantly lying on the stringer
4 (8) and the film outer surface of the second film (3) is
5 oriented predominantly to the surface of the inner trim
6 component (12) facing toward the inner space (7).

1 10. Insulation arrangement according to the claims 1 to 3,
2 characterized in that the insulation packet (1) is realized
3 with an insulation material consisting of polyphenylene
4 sulfide (PPS), which is encased by the film (2, 3, 5) em-
5 bodied as a synthetic plastic film, of which the position
6 in the inner space (7) is adapted to the surface contour of
7 the outer skin (6).

1 11. Insulation arrangement according to the claims 3 to 5,
2 characterized in that the first film (2) is of a thin film,
3 and the second film (3) is a thick film.

1 12. Insulation arrangement according to claim 6, characterized
2 in that, whereby the film (5) or (2) lying on the stringer
3 is arranged not lying on the inner trim component (12),
4 whereby an additional drying effect of the total arrange-

5 ment is achieved by a conditioned air (11) flowing through
6 the inner space (11) from an air conditioning device.

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